Amendments to the Claims

The following listing of claims will replace all prior versions of claim listings in this application.

Please amend claim 57, 58 and 60-63 as indicated below.

Add new claims 70-75.

Please cancel claims 66-69 without prejudice or disclaimer to the subject matter claimed therein.

Listing of the Claims

Claim 1 to 56. (Cancelled)

Claim 57 (Currently amended): A computer system comprising:

(a) a processor; and

(b) a computer readable storage medium storing executable instructions that, when executed by the processor, cause the processor to perform a plurality of steps, wherein the steps include:

(i) comparing an expression profile of a test sample from a subject to a reference expression profile, wherein the expression profile of the test sample comprises statistical measures of differential expression of two or more nucleic acid sequences selected from SEQ ID NO: 1 to 1124 in the test sample as compared to a control sample from a normal individual and the reference expression profile comprises statistical measures of differential expression of said two or more nucleic acid sequences in a individual diagnosed with benign prostatic hyperplasia (BPH) as compared to a normal individual; and

(ii) identifying the presence or absence of BPH in the subject, wherein differential expression of said two or more nucleic acid sequences in the test sample is indicative of BPH.

[(a) a user interface for entering a first experimental data set comprising statistical values which are a measure of differential expression between a test sample and a control sample of at least one nucleic acid molecule comprising the nucleotide sequence selected from the group consisting of SEQ ID NO: 1 to 1124;

(b) a database comprising statistical values which are a measure of differential expression of nucleic acid molecules comprising the nucleotide sequence of at least one nucleic acid molecule selected from the group consisting of SEQ ID NO: 1 to 1124 in a individual diagnosed with BPH compared to a normal individual, and

(c) software for comparing said statistical values from said first experimental data set with said statistical values in said database to generate a second experimental data set which is indicative of the

presence or absence of BPH].

Claim 58 (Currently amended): The computer system of claim [57] 70, wherein the database further comprises nucleotide sequence information for said nucleic acid molecules.

Claim 59 (Previously presented): The computer system of claim 57, further comprising records including information from an external database, which information correlates said nucleic acid molecules to records in said external database.

Claim 60 (Currently amended): The computer system of claim [59] 70, wherein said [external] database is GenBank.

Clam 61 (Currently amended): The computer system of claim 58, wherein said database [in (b)] further comprises descriptive information about said nucleic acid molecules.

Claim 62 (Currently amended): The computer system of claim 57, wherein said expression profile of the test sample [first experimental data set] further comprises descriptive information from the subject [pertaining to the test sample].

Claim 63 (Currently amended): The computer system of claim 62, wherein said descriptive information is selected from the group consisting of [patient] subject age, disease status and treatment status.

Claim 64 (Previously presented): The computer system of claim 63, wherein said disease status information comprises prostate specific antigen (PSA) serum level values.

Claim 65 (Previously presented): The computer system of claim 63, wherein said disease status information comprises information related to disease progression.

Claim 66-69 (Cancelled)

Claim 70 (New): The computer system of claim 57, wherein the reference gene expression profile is part

of a database.

Claim 71 (New): The computer system of claim 57, wherein the expression profile of the test sample comprises statistical measures of differential expression of 10 or more nucleic acid sequences selected from SEQ ID NO: 1 to 1124.

Claim 72 (New): The computer system of claim 57, wherein the expression profile of the test sample comprises statistical measures of differential expression of 20 or more nucleic acid sequences selected from SEQ ID NO: 1 to 1124.

Claim 73 (New): The computer system of claim 57, wherein the expression profile of the test sample comprises statistical measures of differential expression of 50 or more nucleic acid sequences selected from SEQ ID NO: 1 to 1124.

Claim 74 (New): The computer system of claim 57, wherein the expression profile of the test sample comprises statistical measures of differential expression of SEQ ID NO: 1 to 1124.

Claim 75 (New): A computer system comprising:

(a) a processor; and

(b) a computer readable storage medium storing executable instructions that, when executed by the processor, cause the processor to perform a plurality of steps, wherein the steps include:

(i) comparing an expression profile of a test sample from a subject to a reference expression profile, wherein the expression profile of the test sample comprises statistical measures of differential expression of twenty or more nucleic acid sequences selected from SEQ ID NO: 1 to 1124 in the test sample as compared to a control sample from a normal individual and the reference expression profile comprises statistical measures of differential expression of said twenty or more nucleic acid sequences in a individual diagnosed with benign prostatic hyperplasia (BPH) as compared to a normal individual; and

(ii) identifying the presence or absence of BPH in the subject, wherein differential expression of said twenty or more nucleic acid sequences in the test sample is indicative of BPH.